and a thin lower segment. Dilatation of the cervix was not impaired, but assisted, because the thicker myometrium could then overcome the lower segment which had become less contractile.

In reply to Mr Linton Snaith, Professor Heyns said that the majority of workers using the device had observed relief of backache. It was difficult to know why the pain should be increased unless it was due to faulty technique or the fact that the parturient was apprehensive and over-sensitive. The type of chair he used was exceptionally comfortable. The rectus abdominis and sacrospinalis were stretched during decompression. There was merit in the suggestion about the psoas muscles, but their effect on the sacrospinalis would fall far short of that obtained with decompression.

Replying to Dr Barns, Professor Heyns said that whereas many of his patients were given decompression in the dorsal position, almost invariably the semi-recumbent position of the chair was used in labour. The fibre-glass bucket seat was very comfortable even for periods of hours. In his personal experience a plane-surface board was trying. It was of the greatest value to know how different techniques affected the patient. Professor Heyns could give his complete assurance that all his parturients experienced relief although of varying degree. Once started, they refused to surrender decompression.

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*Meeting February 9 1962*

# Dermatoses of Pregnancy

**Dr Elizabeth Ryan**
*(St John's Hospital for Diseases of the Skin, London)*

**Skin Disorders Associated with Pregnancy** [*Abridged*]

Eighty women who developed rashes during pregnancy or in the first week after delivery have been examined. Ten of these had a recurrence or exacerbation of a disorder which had been present before conception. Fifteen had easily recognizable common dermatoses which first appeared during pregnancy or the puerperium. This paper is an account of the skin disorders in the remaining 55 patients. This group presented some unusual features in the appearance or behaviour of their various eruptions.

*Morphology*

These 55 eruptions have been classified on a morphological basis as follows:

(1) *Prurigo* (6 patients): Most of the lesions were scratch marks. A few firm red papules could usually be found and these probably preceded the excoriations. This disorder showed a predilection for the legs, especially the shins and dorsa of the feet, but occasionally appeared on other parts of the body.

(2) *Minute macules, papules and excoriations* (8 patients): The lesions consisted of clusters of discrete red macules and papules 1–2 mm in diameter, punctate excoriations and an occasional pinpoint vesicle. Any part of the body except the scalp, palms and soles might be affected. The picture sometimes bore a striking resemblance to scabies. Most of these rashes began after the twentieth week of pregnancy and cleared before delivery. A few did not appear until after delivery.

(3) *Lichenification* (1 patient): One patient developed thickening of the skin with exaggeration of the skin creases. This change occurred diffusely on the arms and in localized patches on the trunk.

(4) *Unusual eczema* (6 patients): Some unusual patterns of eczema were seen during pregnancy. For example, a Jamaican developed an irritating ring of papules on her back when she was 20 weeks pregnant. The itching stopped one week before delivery and the lesions disappeared six weeks after delivery. The histology was that of eczema.

(5) *Sheets of papules* (6 patients): In 2 patients the rash consisted of sheets of small, flesh-coloured papules, giving the skin a gooseflesh appearance. Four others had a bright red papular eruption.

(6) *Sheets of papules and vesicles* (1 patient): Two weeks before delivery, sheets of erythematous papules and vesicles 2 mm in diameter appeared rapidly on all parts of the body except the scalp. The rash cleared three days after delivery.

(7) *Erythema* (4 patients): Two patients had fixed erythema. In one the lesions were annular; the second had well-demarcated sheets of erythema extending from the back of each elbow down her forearms. Widespread punctate erythema occurred in two other women.

(8) *Papules on patches of erythema* (4 patients): Another distinct group of patients had large patches of erythema on which were scattered a few minute red papules. These lesions were situated on the trunk and proximal parts of the limbs. They appeared one to seven weeks before delivery and cleared one to three weeks after delivery.

(9) *Urticaria* (5 patients): The wheals were about 5 mm in diameter and were sometimes perifollicular. The rash was often localized to one or two sites such as the thighs and upper arms.

(10) *Wheals, vesicles and bullæ* (6 patients): In some of these patients the wheals were fixed and had a polycyclic border, in others they were transient. The lesions appeared at the end of pregnancy or within a few days of delivery.

(11) *Pruritus* (3 patients): Pruritus alone was uncommon in this series. In one patient the itching was localized to the abdomen; two others had generalized pruritus.

(12) *Miscellaneous* (5 patients): One woman had nodules on her shins, another had scaling of her hands and scaly patches on her trunk and a third had pruritus vulvæ and erythema of her eyelids and shins. Two patients presented with excoriations only, but had a preceding rash which was not examined.

*Histology*
Biopsies were taken from 12 patients. With the exception of Group 4 (eczema), most of the biopsies showed only a perivascular infiltrate of lymphocytes in the dermis. Eosinophils were few or absent.

*Course*
These eruptions began from the second week of pregnancy onwards. In 9 patients the lesions did not appear until after delivery. In Groups 2, 8 and 10 the rashes occurred at characteristic times during or after pregnancy. This distinction might disappear if there were more patients in each group. In all these eruptions the lesions cleared spontaneously, sometimes several weeks before delivery. A few patients stated that the irritation stopped immediately the baby was born; others did not improve for periods ranging from a few days to six months after delivery.

Two patients (in Groups 1 and 2) had a recurrence of the same type of rash in more than one pregnancy and one complained of generalized pruritus in five successive pregnancies.

*Treatment*
Treatment with systemic antihistamine drugs and bland local applications did not appear to shorten the course of any of these rashes.

*Babies*
Three babies were born with papular eruptions. In two of these the lesions cleared after forty-eight hours; the third developed infantile eczema which was still present at 9 months. Only one child was stillborn, the mother being a severe diabetic.

No patient had a personal or family history of atopic dermatitis. Six patients (10·9%) gave a personal history of asthma or hay fever and a further 6 gave a family history of asthma or hay fever. Five primigravid patients (9%) had pre-eclamptic toxæmia, but in only one of these did the lesions occur at the same time as the signs of toxæmia. Both rhesus-positive and rhesus-negative mothers had rashes. None of the 8 rhesus-negative mothers had demonstrable antibodies.

No cause was found for any of the dermatoses described. Most of the rashes occurred in apparently healthy women, who had normal pregnancies and normal babies.

**Mr Gordon Bourne**
(*St Bartholomew's Hospital, London*)

**Toxæmic Rash of Pregnancy**

Toxæmic rash of pregnancy is the name given by many obstetricians to an intensely irritating rash that first appears in late pregnancy and which completely regresses a few days after delivery. This spontaneous disappearance of both the symptoms and the signs is characteristic of the condition. Toxæmic rash has no known connexion with pre-eclamptic toxæmia, but the name is preserved because it differentiates this condition from the so-called toxic rashes of pregnancy which include drug eruptions and allergic manifestations.

The symptoms usually commence in the second half of the third trimester in otherwise healthy women whose pregnancies have generally been normal. Striæ gravidarum are commonly present on the anterior abdominal wall. These begin to itch and the pruritus is followed after a few days' interval by the rash which may at first affect only the striæ themselves, although it eventually spreads on to the surrounding skin of the anterior abdominal wall. The lesions tend to appear at irregular intervals and consist of groups of slightly raised erythematous patches. These are bright red at first and sometimes contain a central papule that either ruptures, or is scratched, after which it is replaced by a small adherent brown or

red crust about the size of a pinhead. The rash is usually discrete but in severe cases it may become confluent. Sometimes the lesions assume an urticarial appearance, in which case the crusting is absent or barely discernible. The condition gradually extends peripherally to involve the upper and lower arms, the front of the lower legs and thighs, as well as the buttocks. Rarely does toxæmic rash occur on the back or the breasts and still less frequently is the face involved. The superficial crusting occasionally leads to a mistaken diagnosis of scabies.

The rash is accompanied by intense pruritus which not only causes the patient to scratch the lesions but frequently the irritation and burning are so severe that sleep is disturbed or virtually impossible without heavy sedation.

The lesions occur equally on both sides of the body and this symmetrical distribution is characteristic of toxæmic rash.

The condition usually progresses with gradually increasing pruritus until delivery, after which it subsides spontaneously. The skin over the more severe lesions may desquamate, frequently leaving a residual area of pigmentation which gradually disappears over several weeks. The condition tends to be recurrent in subsequent pregnancies.

During the last three years a total of 24 cases of toxæmic rash have been seen in the Antenatal Clinic at St Bartholomew's Hospital. This is an incidence of about 1 in 120.

There were 15 primigravidæ and 9 multigravidæ, of whom 4 had suffered from a previous abortion. Previous full-term pregnancies had occurred in 5 patients of whom 2 gave a history of rash in one or more of their former pregnancies.

The majority of the patients were young, only three being over 30 years of age. The literature suggests that women suffering from actual herpes gestationis fall into a slightly older age group of 30 to 35 years but it must be stressed that toxæmic rash is not actually herpetiform.

The patients had a tendency to excessive weight gain: 13 (54%) gained a total of 28 lb or more despite the efforts of the Antenatal Clinic staff to restrict weight gain during pregnancy to less than 28 lb. Four (16%) developed clinical pre-eclampsia. The weight increase is perhaps more significant when the relatively small stature of the patients is considered: 12 (50%) were 5 ft 2 in. or less. These two factors may have some bearing upon the high incidence of striæ gravidarum in the group.

The time of onset of the first symptom was evenly distributed throughout the last eight weeks of pregnancy.

Patients suffering from toxæmic rash of pregnancy have a tendency to postmaturity. Twelve (50%) of the patients became postmature and in 6 (25%) the pregnancy lasted for 42 weeks or longer.

The sex of the 26 infants (there were two sets of twins) was equally divided and all the babies are alive and well. The incidence of two twin pregnancies in the series is probably coincidental.

The interference rate was high, much higher than is the usual custom in the department. Spontaneous onset of labour and natural delivery took place in 11 (46%) of the series. Surgical induction for pre-eclampsia or postmaturity was performed 6 times and was followed in 4 instances by spontaneous delivery. There were 3 forceps deliveries, one for delay and two were performed for fœtal distress. Six Cæsarean sections were performed and since this accounts for 25% of the deliveries some further explanation is indicated.

One Cæsarean section was performed at 34 weeks in a patient who had ruptured her membranes prematurely and whose fœtus became severely distressed before the onset of labour. She had suffered from a previous hydatidiform mole. An elective operation was performed at 36 weeks upon another patient in whom intra-uterine death had occurred at 38 weeks in her two previous pregnancies. One, who was 4 ft 11 in. in height, had a failed trial of labour. In the fourth patient, whose height was only 4 ft 10 in., fœtal distress developed early in labour of spontaneous onset at 39 weeks. In two patients fœtal distress occurred following surgical induction for postmaturity, one failed to commence labour and the other developed hypertonic uterine inertia.

It would seem that the patients in this series form a group with a relatively high reproductive risk, in so far as they tend to be of small stature and are liable to excessive weight gain, postmaturity and fœtal distress.

It has been suggested in the past that the symptoms of toxæmic rash of pregnancy might respond to progesterone. Three years ago it was decided that these patients should be given one of the orally active progestational steroids. The 24 patients that comprise this series have all been given norethisterone. The first 4 received 5 mg norethisterone twice daily. This resulted in some improvement in the rash but not in the pruritus. Therefore, in the subsequent 20 patients the dose was increased to 10 mg norethisterone twice daily. It has been found that 20 mg of norethisterone a day results, in the majority of instances, in complete relief from the irritation in

*Table 1*
**Results of norethisterone therapy in 24 instances of toxæmic rash in pregnancy**

| | *Rash* | *Pruritus* |
|---|---|---|
| Cured | 14 | 13 |
| Improved | 6 | 6 |
| No change | 4 | 5 |

three to four days. Gradual disappearance of the rash commences after four days and may take from seven to fourteen days to clear completely according to its severity.

As a result of norethisterone therapy in this series 14 patients were completely cured of their rash and 6 were much better; 13 were cured of the irritation and 6 were much improved (Table 1). In some instances delivery occurred before the norethisterone had been given for sufficient time to effect complete alleviation of the symptoms and these patients are classified upon their condition at the time of delivery.

The norethisterone has recently been discontinued when the symptoms have been relieved and the rash has disappeared. In one patient the rash recurred and was relieved by a further ten days of norethisterone.

Some of the toxæmic rashes tend to assume an urticarial form and this type of lesion responds less rapidly than the maculopapular type of eruption.

*Acknowledgments:* I wish to thank Mr John Beattie, Mr Donald Fraser and Mr John Howkins for allowing their patients to be included in this series.

**Dr Brian Russell**
(*The London Hospital, London*)

**Herpes Gestationis**

My remarks are based on the personal observations of 3 patients with herpes gestationis and the study of case notes of 8 other patients of the London Hospital since 1925 in whom this diagnosis was made (Russell & Thorne 1957).

It is a rare disease which occurs approximately once in every 4,500 pregnancies. It usually recurs in all subsequent pregnancies, intermittent recurrences being exceptional.

The onset may be at any time between the eighth week of pregnancy and the third day of the puerperium, the most common time being between 12 and 24 weeks of pregnancy. Once it starts in pregnancy it recurs in subsequent pregnancies. If it starts in the puerperium, it recurs either in the next pregnancy or in the next puerperium. It has not been recorded as starting in one pregnancy and recurring in the puerperium of the next pregnancy.

Partial remission sometimes occurs at 33–40 weeks of pregnancy and it usually clears up finally within four to eight weeks after delivery. Sometimes monthly relapses occur for nine to twelve months after delivery, gradually becoming milder before finally ceasing.

Herpes gestationis presents with widespread and severe itching, sometimes mistaken for scabies, followed by the development of a polycyclic eruption with papulovesicular, bullous or even pustular elements. It resembles erythema multiforme bullosum more than dermatitis herpetiformis, a disease which has been found not to be aggravated by pregnancy. Histologically there are a dermal infiltrate, which is often predominantly eosinophilic, and subepidermal bullæ containing eosinophils.

In my experience the only effective treatment is with corticosteroids, which should be given in the smallest dose consistent with about 75% relief of symptoms. Repeated attempts should be made to reduce the dosage and it may be found that the drug can be withdrawn before full term in mild cases and in those cases where a spontaneous remission occurs.

Herpes gestationis does not appear to carry any risk to the fœtus.

The pathogenesis is obscure. Many authors have described an increase of serum or urinary gonadotrophins. It seems to be a state of autosensitization to an abnormal metabolite or endocrine product produced in pregnancy, the puerperium and, for a while, premenstrually. Negative rat ovarian hyperæmia tests for pregnancy were obtained in patients during the puerperium when the disease was still active, suggesting that the increased gonadotrophins are not of chorionic origin but may arise from the pituitary.

REFERENCE
**Russell B & Thorne N A** (1957) *Brit. J. Derm.* **69**, 339

**Professor J H M Pinkerton** (*London*) said that while treatment with corticosteroids should certainly not be withheld in severe cases, corticosteroids given during pregnancy carried a considerable risk of severe shock during and after labour. All pregnant women receiving corticosteroids should carry a card showing the preparation, its dose and indication, so that adequate prophylactic I.M. cortisone might be given during labour and I.V. hydrocortisone immediately after delivery or at the first sign of incipient shock.

**Mr W G Mills** (*Birmingham*) said that the wide range in the physiological response of the skin to pregnancy, as shown especially by the extreme variability in the degree both of pigmentation and of striation, suggested an endocrine basis from either pituitary or adrenocortical function. This might well be a factor in some of the dermatoses of pregnancy.